the whole digestive apparatus. From these necessarily very delicate experiments, for the description of which we refer to the original, the author draws the following conclusions: 1. The heat of the blood is constantly increased by its passage through the digestive apparatus, in such a manner that it is warmer in the portal vein than in the abdominal aorta, and still more so in the hepatic; the process of digestion exercising apparently no influence over this phenomenon. 2. The blood of the hepatic veins is a constant source of calorification for the blood conveyed through the inferior cava to the heart. This may be considered even as the principal source, for nowhere else is the blood found so warm as in the hepatic veins, where it raises the thermometer in vigorous dogs even to 106°.88 Fahr. 3. Among the organs which contribute to the augmentation of the temperature of the blood in its passage through the digestive apparatus, the liver maintains the highest rank. This organ must therefore be regarded as one of the principal sources of animal heat.—*B. & F. Med.-Chirurg. Rev.*, Jan., 1857, from *L'Union Médicale, No.* 108, 1856.

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3. *Accommodation of the Eye.*—HELMHOLTZ has examined by an ingenious apparatus various phenomena connected with the process of accommodation. No alteration is to be observed in the curvature of the cornea during the accommodation for different distances; the iris becomes more prominent by the accommodation to near objects; the radius of the curvation of the anterior surface of the crystalline lens is, during accommodation for near objects = 8.6 millimètres; for remote objects = 11.9 millimètres. During the accommodation for near objects, also, the radius of the curvation of the posterior surface appears to become diminished; while, therefore, the lens becomes more curved on both sides, the posterior vertex remains in its place, while the anterior advances considerably. The lenses of dead bodies have the shape of those adjusted for near objects; they are in general even thicker than those. Helmholtz is therefore of opinion that this is the form of the lens in its state of equilibrium. Regarding the influence exercised by the iris in this alteration of shape and position of the lens, Helmholtz maintains a similar view to that of Cramer.—*B. & F. Med.-Chirurg. Rev.*, Jan., 1857, from *Graefe's Archiv.*, vol. i., 1855.

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4. *Secretion of Bile.*—KOLLIKER and MULLER ("Second Report of the Physiological Institution of Wurzburg) present some valuable additions to our knowledge of the secretion of bile. The inferences are drawn from experiments performed on dogs. 1. As regards the influence of *meals*, a considerable increase was found from the third hour—the greatest amount, in general, between the sixth and eighth hour, the lowest between the nineteenth and twenty-fifth hour after moderate meals, while the increase continued for sixteen or seventeen hours after large meals. It will be remembered that Arnold found the quantity of bile largest soon after meals, decreasing again after the fourth hour. 2. The quantity of bile secreted per one kilogramme of dog in twenty-four hours, is estimated at 36.1 grammes, with 1.162 grammes of solid residue; which nearly agree with the observations of Bidder and Schmidt, while the figures are higher than those given by Nasse[1] and Arnold. 3. Of physiological as well as pathological interest are the researches made on dogs, after the closure of the external fistula; cases, therefore, in which, as the ductus choledochus had been previously obliterated, *artificial icterus* had been produced. The first signs of the icterus were observed in the urine, and not till several days later it appeared in the conjunctiva and mucous membrane of the mouth. In spite of the most intense icterus, one of the animals remained for several months very lively, and gained weight; sudden death ensued, however, in the midst of apparent health. The examination exhibited the signs of peritonitis, and a perforated ulcer of the duodenum. It follows that the mere retention of bile does not appear to exercise so injurious an influence on digestion and nutrition, and on the nervous system, as is generally assumed. 4. Amongst the *post-mortem phenomena* of dogs affected with biliary fistula, our attention is particularly arrested by the comparative frequency of perforating ulcers of the duodenum, and of incrusta-

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[1] Commentatio de Bilis quotidie a Cane secreta copia et indole. Marburgi, 1851.

tion (ossification) of the branches of the cœliac axis and the mesenteric artery. Two of the five dogs experimented upon died of these perforating ulcers; a third of them manifested the signs of gastro-intestinal catarrh. The incrustation of the arteries was discovered likewise in two out of the five dogs, and has not been looked for in the remaining three. These pathological alterations, which had been formed without obvious symptoms during life, must make us careful in asserting that the bile may be drawn off without material injury to the constitution; the more so, as all the dogs experimented upon, as well by the authors as also by Schwann,[1] Nasse, and Arnold, died more or less suddenly, although they had been well provided with food. Regarding the etiology of the incrustation of the arteries, we must wait for further observations; we have already other pathological facts before us which make it probable that diseased states of the bile-conducting apparatus are apt to cause this morbid condition of the bloodvessels of the intestines.—*B. & F. Med.-Chirurg. Rev.*, Jan., 1857, from *Verhandl. d. Wurzb. Gesellsch.*, vi. 3, 1856.

5. *Membrana Pupillaris.*—Dr. Webb exhibited to the Norwich Pathological Society the following specimens:—

1. An injected specimen from human fœtus of five months, of a posterior view of the entire membrana pupillaris, *in situ*, with the lens removed.
2. A vertical section of the corresponding eye, showing the looped vessels of the membrana pupillaris passing to it over the anterior margin of iris.
3. Detached capsule of the lens, with vessels spreading from pole to pole of the lens, in connection with another preparation of the same eye, verifying the commonly received opinion of the existence of this membrane as a distinct structure closing the pupillary aperture.

These preparations were presented in consequence of Professor Quekett having unsettled the question as to the true character of this part, and to negative the assertion advanced in his *Histological Lectures* (vol. i. page 131), "that at one stage of development of the lens, the whole capsule is covered with vessels; and if it should so happen, in the course of the dissection, that the anterior layer be detached from the posterior, the anterior layer would be described as the membrana pupillaris; but if the lens come away entirely covered with vessels, no such membrane is found."—*British Medical Journal*, Feb. 21, 1857.

MATERIA MEDICA AND PHARMACY.

6. *On the Vapour of Amylene.*—Dr. Snow read before the Medical Society of London (Jan. 10, 1857), a paper on this subject.

He said that amylene was first discovered and described, in 1844, by M. Balard, Professor of Chemistry at the Faculty of Science of Paris. It was made by distilling fusel oil with chloride of zinc. M. Auguste Cahours had given the name of amylene five years previously to a product which was isomeric with it, and was made nearly in the same manner, but was now termed paramylene. Amylene itself was a colourless and very mobile liquid of extremely low specific gravity. M. Ballard had not stated the specific gravity; but he (Dr. Snow) had found it to be 0.659 at 56°. It was very volatile, boiling at 102° Fahr., and the specific gravity of its vapour was 2.45. It was a compound of ten atoms carbon and ten hydrogen, and it bore the same relation to fusel oil, or amylic alcohol, that olefiant gas, or ethylene, bore to common alcohol. It burnt with a brilliant white flame. It was soluble in alcohol and ether in all proportions, but was very sparingly soluble in water. As far as he could ascertain, it required rather more than 10,000 parts of water for its solution. It had an odour somewhat resembling naphtha; some persons thought the odour agreeable, and some thought it unpleasant; the odour was not so strong or permanent as that of sulphuric ether, and it

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[1] Müller's Archiv. 1844.